WHAT IS CLAIMED IS:

1.  A method for timing recovery in a communication system using cyclic extension, comprising:

computing ensemble correlation function output from a plurality of

symbols;

determining a valid sampling region based on a width of a plateau of the ensemble correlation function output; and

determining at least one sampling position for at least one symbol based on the valid sampling region.

2.  The method of claim 1, further comprising defining the valid sampling region based on a comparison of the ensemble correlation function output to a threshold.

3.  The method of claim 1, further comprising:

filtering the ensemble correlation function output.

4.  The method of claim 3 wherein the filtering occurs prior to determining the valid sampling region.

5.  The method of claim 3, further comprising:

using a median filter to filter the ensemble correlation function output.

14

6.    The method of claim 1, further comprising:

determining a peak value included in  the ensemble correlation function output.

5

7.    The method of claim 6, further comprising:

determining the threshold as a function of the peak value.

8.    A system, comprising:

10    a correlator for computing an ensemble correlation function output from a plurality of received symbols; and

a timing estimator, operatively coupled to the correlator, for determining a valid sampling region based on a width of a plateau of the ensemble correlation function output; and determining at least one

15    sampling position for at least one symbol based on the valid sampling region.

9.    The system of claim 8, further comprising:

a filter, operatively coupled to the correlator, for filtering the

20    ensemble correlation function output .

10.    The system of claim 9, further comprising:

a max detector, operatively coupled to the filter, for determining a peak value included in the filtered ensemble correlation

25    function output.

11.    The system of claim 8, further comprising:

a comparator, operatively coupled to the correlator, for comparing the ensemble correlation function output to a threshold to

30    define the valid sampling region.

12.	The system of claim 8, for use in a receiver.

13.	The system of claim 12, wherein the receiver is wireless.

14.	The system of claim 8, further comprising:

at least one phase locked loop for tracking edges of the plateau.

15.	A method for estimating delay spread in a communication system using cyclic extension, comprising:

computing an ensemble correlation function output from a plurality of symbols; and

using the ensemble correlation function to estimate the delay-spread.

16.	The method of claim 15, further comprising:

comparing the ensemble correlation function output to a threshold to define a valid sampling region; and

subtracting a width of the valid sampling region from a length of the cyclic extension of the symbol to obtain an estimate of the delay spread.

17.	The method of claim 15, further comprising:

filtering the ensemble correlation function output.

18.	The method of claim 17, further comprising:

using a median filter to filter the ensemble correlation function output.

19.     The method of claim 15, further comprising:

determining a peak value included in the ensemble correlation function output.

5

20.     The method of claim 19, further comprising:

determining the threshold as a function of the peak value.

21.     The method of claim 16, wherein threshold crossing points of

10    the ensemble correlating function output define the valid sampling region.

22.     A system for estimating delay spread in a communication system using cyclic extension, comprising:

a correlator for computing an ensemble correlation function

15    output from a plurality of  symbols; and

a delay-spread estimator, operatively coupled to the correlator, for estimating the delay-spread.

23.     The system of claim 22, further comprising:

20            a comparator, operatively coupled to the correlator, for comparing the ensemble correlation function output  to a threshold to define a valid sampling region; and

a subtractor, operatively coupled to the comparator, for subtracting a width of the valid sampling region from a length of the cyclic

25    extension of the  symbol to obtain an estimate of the delay spread.

24.    The system of claim 22, further comprising:

a filter, operatively coupled to the correlator, for filtering the ensemble correlation function output.

25.    The system of claim 24, further comprising:

a max detector, operatively coupled to the filter, for determining a peak value included in the filtered ensemble correlation function output.

26.    The system of claim 22, for use in a receiver.

27.    The system of claim 26, wherein the receiver is wireless.

28.    A method for adapting a receiver in a communication system using cyclic extension, comprising:

computing an ensemble correlation function output from a plurality of symbols;

determining a multipath channel characteristic based on the ensemble correlation function output; and

adapting the receiver based on the multipath channel characteristic.

29.    The method of claim 28, wherein the multipath channel characteristic is delay-spread.

30.    The method of claim 28, wherein the step of adapting comprises:

determining one or more coefficients of a channel estimation filter in the receiver.

31.     The method of claim 28, wherein the step of adapting comprises:

identifying an inter-symbol-interference free portion of a cyclic extension of a received symbol; and

combining the inter-symbol-interference free portion of the cyclic extension with the received symbol.

32.     The method of claim 28 wherein the step of adapting comprises:

determining at least one sampling position for at least one symbol based on the multi-path channel characteristic.